SEQUENCE LISTING

<110> Wang, Huaming

<120> Novel Phenol Oxidizing Enzymes

<130> GC567

<140> 09/218,702
<141> 1998-12-22

<160> 5

<170> FastSEQ for Windows Version 4.0

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<211> 1791
<212> DNA
<213> Stachybotrys sp.

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<210> 2
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<212> PRT

<213> Stachybotrys sp.

<400> 2

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Arg Asn Ala Leu Pro Ile Pro Pro Val Lys Gln Pro Lys Met Ile Ile
65                  70                  75                  80
Thr Asn Pro Val Thr Gly Lys Asp Ile Trp Tyr Tyr Glu Ile Glu Ile
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Lys Pro Phe Gln Gln Arg Ile Tyr Pro Thr Leu Arg Pro Ala Thr Leu
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Val Gly Tyr Asp Gly Met Ser Pro Gly Pro Thr Phe Asn Val Pro Arg
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Gly Thr Glu Thr Val Val Arg Phe Ile Asn Asn Ala Thr Val Glu Asn
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Ala Glu Asp Val Thr Phe Pro Gly Glu Tyr Lys Asp Tyr Tyr Phe Pro
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Asn Tyr Gln Ser Ala Arg Leu Leu Trp Tyr His Asp His Ala Phe Met
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Lys Thr Ala Glu Asn Ala Tyr Phe Gly Gln Ala Gly Ala Tyr Ile Ile
            195                 200                 205
Asn Asp Glu Ala Glu Asp Ala Leu Gly Leu Pro Ser Gly Tyr Gly Glu
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Phe Asp Ile Pro Leu Ile Leu Thr Ala Lys Tyr Tyr Asn Ala Asp Gly
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Leu Tyr Leu Val Arg Thr Ser Ser Pro Asn Val Arg Ile Pro Phe Gln
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Val Ile Ala Ser Asp Ala Gly Leu Leu Gln Ala Pro Val Gln Thr Ser
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Thr Asn Phe Ala Gly Gln Thr Leu Asp Leu Arg Asn Val Ala Glu Thr
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Asn Asp Val Gly Asp Glu Asp Glu Tyr Ala Arg Thr Leu Glu Val Met
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Arg Phe Val Val Ser Ser Gly Thr Val Glu Asp Asn Ser Gln Val Pro
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Ser Thr Leu Arg Asp Val Pro Phe Pro Pro His Lys Glu Gly Pro Ala
385                 390                 395                 400
Asp Lys His Phe Lys Phe Glu Arg Ser Asn Gly His Tyr Leu Ile Asn
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Asp Val Gly Phe Ala Asp Val Asn Glu Arg Val Leu Ala Lys Pro Glu
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2

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Thr Gly Gly Arg Gly Gln Val Met Pro Tyr Glu Ser Ala Gly Leu Lys
465             470             475             480
Asp Val Val Trp Leu Gly Arg Gly Glu Thr Leu Thr Ile Glu Ala His
            ·485             490             495
Tyr Gln Pro Trp Thr Gly Ala Tyr Met Trp His Cys His Asn Leu Ile
        500             505             510
His Glu Asp Asn Asp Met Met Ala Val Phe Asn Val Thr Ala Met Glu
        515             520             525
Glu Lys Gly Tyr Leu Gln Glu Asp Phe Glu Asp Pro Met Asn Pro Lys
    530             535             540
Trp Arg Ala Val Pro Tyr Asn Arg Asn Asp Phe His Ala Arg Ala Gly
545             550             555             560
Asn Phe Ser Ala Glu Ser Ile Thr Ala Arg Val Gln Glu Leu Ala Glu
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Gln Glu Pro Tyr Asn Arg Leu Asp Glu Ile Leu Glu Asp Leu Gly Ile
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<211> 3677
<212> DNA
<213> Stachybotrys chartarum

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3

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<211> 568
<212> PRT
<213> Bilirubin oxidase

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            20                  25                  30
Gly His Leu Phe Lys Arg Val Ala Gln Ile Ser Pro Gln Tyr Pro Met
        35                  40                  45
Phe Thr Val Pro Leu Pro Ile Pro Pro Val Lys Gln Pro Arg Leu Thr
        50                  55                  60
Val Thr Asn Pro Val Asn Gly Gln Glu Ile Trp Tyr Tyr Glu Val Glu
65                  70                  75                  80
Ile Lys Pro Phe Thr His Gln Val Tyr Pro Asp Leu Gly Ser Ala Asp
                85                  90                  95
Leu Val Gly Tyr Asp Gly Met Ser Pro Gly Pro Thr Phe Gln Val Pro
            100                 105                 110
Arg Gly Val Glu Thr Val Val Arg Phe Ile Asn Asn Ala Glu Ala Pro
        115                 120                 125
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4

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Trp Ala Glu Asp Ile Thr Glu Pro Gly Ser Phe Lys Asp Tyr Tyr Tyr
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Pro Asn Arg Gln Ser Ala Arg Thr Leu Trp Tyr His Asp His Ala Met
                165             170             175
His Ile Thr Ala Glu Asn Ala Tyr Arg Gly Gln Ala Gly Leu Tyr Met
                180             185             190
Leu Thr Asp Pro Ala Glu Asp Ala Leu Asn Leu Pro Ser Gly Tyr Gly
                195             200             205
Glu Phe Asp Ile Pro Met Ile Leu Thr Ser Lys Gln Tyr Thr Ala Asn
            210             215             220
Gly Asn Leu Val Thr Thr Asn Gly Glu Leu Asn Ser Phe Trp Gly Asp
225             230             235             240
Val Ile His Val Asn Gly Gln Pro Trp Pro Phe Lys Asn Val Glu Pro
                245             250             255
Arg Lys Tyr Arg Phe Arg Phe Leu Asp Ala Ala Val Ser Arg Ser Phe
                260             265             270
Gly Leu Tyr Phe Ala Asp Thr Asp Ala Ile Asp Thr Arg Leu Pro Phe
            275             280             285
Lys Val Ile Ala Ser Asp Ser Gly Leu Leu Glu His Pro Ala Asp Thr
            290             295             300
Ser Leu Leu Tyr Ile Ser Met Ala Glu Arg Tyr Glu Val Val Phe Asp
305             310             315             320
Phe Ser Asp Tyr Ala Gly Lys Thr Ile Glu Leu Arg Asn Leu Gly Gly
                325             330             335
Ser Ile Gly Gly Ile Gly Thr Asp Thr Asp Tyr Asp Asn Thr Asp Lys
            340             345             350
Val Met Arg Phe Val Val Ala Asp Asp Thr Thr Gln Pro Asp Thr Ser
            355             360             365
Val Val Pro Ala Asn Leu Arg Asp Val Pro Phe Pro Ser Pro Thr Thr
            370             375             380
Asn Arg Gln Phe Arg Phe Gly Arg Thr Gly Pro Thr Trp Thr Ile Asn
385             390             395             400
Gly Val Ala Phe Ala Asp Val Gln Asn Arg Leu Leu Ala Asn Val Pro
            405             410             415
Val Gly Thr Val Glu Arg Trp Glu Leu Ile Asn Ala Gly Asn Gly Trp
            420             425             430
Thr His Pro Ile His Ile His Leu Val Asp Phe Lys Val Ile Ser Arg
            435             440             445
Thr Ser Gly Asn Asn Ala Arg Thr Val Met Pro Tyr Glu Ser Lys Asp
            450             455             460
Val Val Trp Leu Gly Arg Arg Glu Thr Val Val Val Glu Ala His Tyr
465             470             475             480
Ala Pro Phe Pro Gly Val Tyr Met Phe His Cys His Asn Leu Ile His
            485             490             495
Glu Asp His Asp Met Met Ala Ala Phe Asn Ala Thr Val Leu Pro Asp
            500             505             510
Tyr Gly Tyr Asn Ala Thr Val Phe Val Asp Pro Met Glu Glu Leu Trp
            515             520             525
Gln Ala Arg Pro Tyr Glu Leu Gly Glu Phe Gln Ala Gln Ser Gly Gln
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Phe Ser Val Gln Ala Val Thr Glu Arg Ile Gln Thr Met Ala Glu Tyr
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Arg Pro Tyr Ala Ala Ala Asp Glu
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<211> 2067
<212> DNA
<213> Artificial Sequence

<220>
<223> plasmid

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